

QUIVIRA NATIONAL WILDLIFE REFUGE.

STAFFORD, KANSAS

PERSONNEL

Refuge Manager - - - - - Charles R. Darling
Assistant Refuge Manager - - - - - James M. Carroll, Jr.
(Transferred to Horicon NWR 11/14/68)
Assistant Refuge Manager - - - - - Gerald L. Fisher
(EOD 11/20/68)
Refuge Clerk - - - - - Wayne E. Dale
Maintenance man - - - - - Earl Miller
Maintenance man - - - - - Louis Wilson
Laborer (WAE) - - - - - Kenneth King
(Term. 01/12/68)
Laborer, Farm (WAE) - - - - - Ivan Algrim
(03/06 - 05/17/68)
Laborer (WAE) - - - - - Willis Allen
(03/14 - 09/13/68)
Laborer (WAE) - - - - - James Keddle
(03/18 - 09/17/68)
Laborer (WAE) - - - - - Jon Linville
(05/27 - 08/23/68)
Laborer (WAE) - - - - - Tom Peintner
(05/27 - 08/23/68)
Laborer (WAE) - - - - - Jerry Gee
(05/27 - 09/06/68)
Laborer, Farm (WAE) - - - - - John Forewalder
(04/08 - 10/18/68)
Laborer, Farm - - - - - Graham Butler
(05/26 - 09/06/68)
Laborer, Farm (WAE) - - - - - Jacky Burleson
(06/03 - 09/06/68)
Laborer, Farm (WAE) - - - - - Keith Starr
(06/03 - 09/06/68)
Biological Aide - - - - - Virgil Smith
(06/03 - 08/23/68)

QUIVIRA NATIONAL WILDLIFE REFUGE
STAFFORD, KANSAS
NARRATIVE REPORT
JANUARY 1 to DECEMBER 31, 1968

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QUIVIRA NATIONAL WILDLIFE REFUGE

STAFFORD, KANSAS

NARRATIVE REPORT

JANUARY 1 to DECEMBER 31, 1968

I. GENERAL

A. Weather Conditions.

<u>Month</u>	<u>Snow</u>	<u>Precip.</u>	<u>Hdqrts.</u> <u>Precip.</u>	<u>Average</u> <u>Precip.</u>	<u>Max.</u> <u>Temp.</u>	<u>Min.</u> <u>Temp.</u>
Jan.		.02"	.05"	.68"	69°	- 6°
Feb.	.50"	.15	.09	.91	63	6
March		.15	.09	1.21	83	9
April		1.12	.90	2.39	86	24
May		3.11	3.43	3.90	95	37
June		1.97	2.82	3.80	102	49
July		3.91	3.80	3.03	102	55
August		2.10	2.37	2.90	104	54
Sept.		.21	.28	1.81	91	43
Oct.		6.16	4.97	1.33	91	31
Nov.		1.88	1.95	.86	70	22
Dec.	3.00	.45	.26	.81	66	- 7
Totals	3.50"	21.23"	21.01"	23.63"	Ext. 104°	- 7°

Precipitation and temperature data were taken from the U. S. Weather Bureau station at Hudson, ten miles west of the refuge. Precipitation records were also made at refuge headquarters. Average precipitation figures are for the period 1931-52. The last killing frost date in early April was a month earlier than normal and the growing season extended longer than usual into early November. The semi-drought conditions for crops and pasture land continued through most of the year. Rains persistantly arrived too early or too late. Sorghum grain fields were replanted after hard rains and new plantings did not receive sufficient moisture until late July. We recorded a total of 3.64" of rain on October 16 and 17 and stations west of us totaled as much as six inches.

B. Habitat Conditions.

1. Water. The flow of Rattlesnake Creek continued below normal for most of the year but remained adequate for our needs until late summer. The Little Salt Marsh, Unit 5, was frozen over most of January. Water was distributed to various units in February and March. Flow in the west lateral of the main canal was discontinued in late March to Units 28, 29 and 30 for preparation of additional construction work on the canal. Unit 5 was maintained approximately one foot below the full mark in the advent of early summer flood conditions and the pending construction work. Water was distributed to most units until mid-June when there was no longer sufficient flow from Rattlesnake Creek to



02/06/68 Unit 24, Darryname Lake, and other units north of Unit 5, Little Salt Marsh. The units were free of ice for the first time during the year. Rattlesnake Creek had continued to flow through the refuge during the freeze up. All units except 5, 14a and 20a were completely dry by the end of summer and until late October.
CRD.

continue past Unit 24, Darrynane Lake.

Rattlesnake Creek ceased flowing into the refuge for six days in late August and was a mere trickle through most of September. At the beginning of October, the water level in Unit 5 was two feet below the full mark and too low to divert down the main canal. All other units had completely dried up except Units 7, 14a and 20a.

The fall migration of waterfowl and other marsh birds had been very poor. The Kansas goose season opened in mid-October without any geese in this area and the duck season was scheduled to open November 2. Then it rained over the Rattlesnake Creek watershed for two days. Unit 5 crested one foot over the spillway and all of the desired water units were filled by the end of the month. The USGS gauging station near Raymond and east of the refuge recorded a peak discharge of 330 CFS on October 21.

The construction of the Rattlesnake-Big Salt Marsh Canal and dikes for Units 58, 75 and 76 were completed in August and the deluge provided more than enough water to fill the Big Salt Marsh with more water than has been known by local residents.

2. Food and Cover. Early in the year and through the spring migration, ducks and geese fed primarily outside the refuge. The fall migrants did not arrive until after the hunting season opened, and the geese appeared reluctant to leave the refuge until after they had consumed the growth of eight acres of Elbon rye just north of Unit 5 and fifty acres of wheat in Tract 46. They also fed on the wheat and milo strips in farming units A-1, A-3 and A-4.

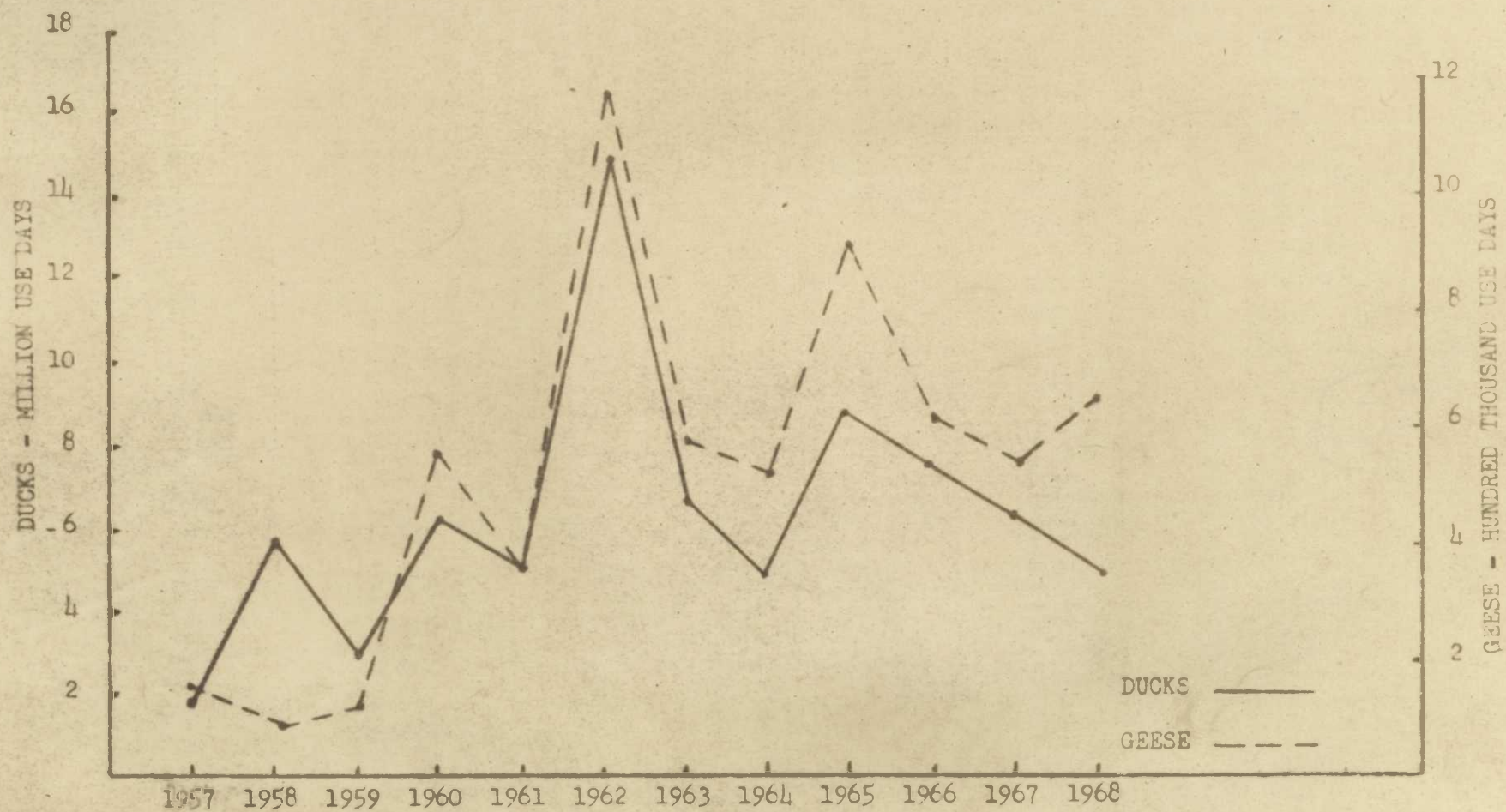
There was some duck use of Unit 76 in November but the remainder of the Big Salt Marsh was not as attractive to ducks as expected. The Marsh had been extremely dry throughout the summer and apparently had not produced any favorable food during the year. There was a complete failure of Japanese millet plantings in Units 24, 48, 49, 61 and 63. The success of milo planting in these units was not much better. In addition to Unit 5, ducks utilized Units 14a, 20a and 25 the most extensively, and Units 48 and 49 after they were filled later in the year to take advantage of what milo was available. Mallards appeared to do most of their feeding in milo stubble fields off the refuge at night.

II. WILDLIFE

A. Migratory Birds.

Geese. Early January had been preceded by a hard freeze of all water units including the Little Salt Marsh and most of the wheat and milo fields were covered with crusted snow. The year began very similar to 1967 for Canada geese with 1,800 present. However, their number increased more rapidly this year and use-days increased from 257,502 to 515,802 during the spring migration, but still below the 1966 figure of 719,432. Use-days for white-fronted geese declined to 42,462 from 47,152 in 1967 and 230,251 in 1966.

QUIVIRA REFUGE WATERFOWL USE DAYS



The first fall migrant Canada geese arrived three weeks later than last year. They did not equal last year's number and did not remain in this area of Kansas as long as last year. The fall use was 169,000 days less than a year ago and left a gain of 88,000 use-days for the year. White-fronted goose use increased from 1,680 days in 1967 to 4,123 days in the fall of 1968.

Ducks. Mallards left hurriedly before the beginning of the year and the prolonged freeze. At the end of January there were suddenly 70,000 present but they departed within a week. There were no large concentrations on the refuge the remainder of the winter season which was mild and open.

The fall and early winter migration of mallards and other ducks did not seem to materialize. The lack of species variation was very evident in hunter's bags and census reports. Mallard use dropped 733,000 days and all other ducks declined 285,000 use days from 1967. Only green-winged teal approached their total use of last year. The use by diving ducks and coot was negligible.

Other Migratory Birds. No whooping cranes were observed on the refuge during the year and there were no reports of any in the immediate vicinity. Three whoopers were reported at the Cheyenne Bottoms Waterfowl Management area in early October approximately thirty miles northwest of the refuge.

Sandhill cranes increased their spring use of the refuge by 14,000 days and fall use by 6,000 days. They utilized various cultivated fields and pastures for feeding and loafing and roosted on the west side of the Big Salt Marsh. The spring and early summer use by marsh birds and shore-birds was considered normal. Most of the water units had dried out by August and there was a decline in variety and total use during the fall migration.

Several avocet nests were located in Units 26 and 49 and an estimated thirty young were produced.

B. Upland Game Birds.

Bobwhite and ring-necked pheasants continue to maintain a very good population density. There were no prolonged early summer rains or hailstorms to cause mortality of young broods.

C. Big Game Animals.

White-tailed deer continue to thrive on the refuge. They are more commonly seen on the south end of the refuge but their tracks are evident on all roads and trails. Three animals were known to have been killed by cars on the blacktop road north of the refuge shop. Four deer which undoubtedly frequented the refuge were killed during the state hunting season within one mile of the refuge boundary.

The refuge wild turkey population remains at three with only one hen.

These birds remain within the vicinity of a catalpa grove and two pumping oil wells near the east boundary. The gobblers were commonly seen by the pumper but the hen disappeared last winter. She was observed by a cooperative farmer in June with at least four young but they have not been observed again. There have been a few reports of turkeys east and west of the refuge.

D. Fur Animals, Predators, Rodents and other Mammals.

Muskrat and beaver are frequently seen in the Little Salt Marsh and several of the small water impoundments. Beaver cuttings were noted in late summer after the nearby water units had completely dried out. Muskrats caused some minor damage to small ditches but beaver were a bigger nuisance when they constructed supplemental dams in the flash-board structures or stored food supplies in the whistle control structures.

Pocket gophers and kangaroo rats continue to be abundant over most of the refuge. There is frequent evidence that they are sought out by badgers. Raccoon, striped skunks and eastern cottontails remain abundant. Coyotes are frequently seen throughout the refuge at all seasons.

E. Hawks, Eagles, Owls, Crows.

Eagle numbers continued to decline. The year began with twelve bald and six golden eagles. Seventeen bald eagles were present in early February. One bald eagle was first noted October 8, twelve were present in late November and eight were recorded on the Christmas bird count. Two golden eagles were first seen in mid-November, seven were present in early December but only four remained for the Christmas count.

The eagles continued to roost in the old cottonwood timber claim on the refuge and to some extent in the area around Unit 14c. They were not observed in the old timber claim west of the refuge shop during the Christmas count as in former years. They were noted several times attempting to catch crippled ducks and geese during the hunting season.

Most of the hawk and owl observations were routine through out the year. There was a decline in Mississippi kites during the summer. The first long-eared owl in several years and seventy marsh hawks were tallied on the Christmas bird count.

Crows were almost absent during the summer but four to five thousand were back in October and early November. Crow hunting on the refuge was negligible during the hunting season. Crows and an estimated 30,000 red-winged blackbirds consumed most of the milo left standing in the refuge fields.

F. Other Birds.

No significant population changes were noted among other bird species. A banded blue jay was seen frequently in early winter around the headquarters area. He was trapped and released after the band number was recorded. The Audubon Christmas Bird Count, included at the end of this



05/02/68 English Construction Co. of Hutchinson, Kansas was awarded contract SFW2-647 for constructing Rattlesnake Creek Canal, the extension of West Main Canal and dikes 58, 75 and 76. The construction of a concrete culvert, RC-C, was the second project during the work period. CRD.



05/17/68 The contractor sublet the canal and dirt work but started the construction of East Dike 76 with his own equipment. The dual wheeled farm tractor is mired down above the rear axel. A few days after this picture was taken, the dike work was turned over to a more efficient operator with his own machine. No further difficulties were encountered and the Big Marsh dried out enough in mid summer so that mats were not required for the dragline. CRD.

report, was more successful than last year. The number of species increased from thirty-five to forty-one and the number of individuals increased nearly 27,000 because of the more normal population of mallards.

G. Fish.

Channel catfish, black bullheads and carp thrive in the Little Salt Marsh. The remains of carp greatly exceeded those of the other species in the dried out units at the end of summer.

H. Reptiles.

Soft shelled turtles became much more conspicuous as the water levels receded. They were constantly attempting to steal the bait and the catch of fishermen during the summer. There was no apparent change in the snake population.

I. Disease.

None noted within the refuge. Botulism was reported to be the cause of death of waterfowl and shorebirds at the Cheyenne Bottoms Waterfowl Management Area during the year.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development and Maintenance.

1. Water Management Facilities. English Construction Company of Hutchinson, Kansas was awarded the contract for construction of the Rattlesnake-Big Salt Marsh Canal and the dikes for Units 58, 75 and 76. The contract was the fulfillment of FY 1967 construction funds. No construction funds were available for the last two fiscal years. Construction started April 2 and was completed August 29. The dikes for Units 75 and 76 were constructed with a dragline. Water levels were low enough that mats were not required for the wide-tracked machine and no difficulties were encountered except that some of the dike material was not completely dried out by the time the contract was completed. The dragline was also used for excavating the deeper portions of the west main canal which flows into the Rattlesnake Canal.

A total of 1,200 cubic yards of riprap material was hauled to the dikes on Units 5, 14a, 24, 40, 49, 61 and 62 and thirty-five yards to the bank of Rattlesnake Creek near an old wooden bridge. The broken concrete was salvaged from old building sites on the refuge and other sources near Zenith. All was spread in place at the high water line. We have no natural source of riprap material for the sandy dikes.

The spillway of Unit 11 was repaired with 68 cubic yards of clayball material consisting of clay, rock and sand. The borrow area in Unit 11 was utilized for obtaining 750 cu. yds. of material for spreading on dikes and various refuge roads. Unit 11 had not been completely operable since a flood in 1965 because of a siltation problem. Approximately 400 feet of ditch were excavated to divert water to the east side of the unit.



10/28/68 The reflectorized refuge entrance signs were constructed by Treasure Lake CCC. Refuge personnel constructed the framing. The Uniform Traffic Control code requires the five foot clearance on the county right-of-way. CRD.



10/28/68 Chain link fences were erected around the three control structures on the Unit 5 dike. The fences reduce the hazards of fishermen falling into the structures. CRD

An informal contract was made to clean siltation and vegetative growth from 18,000 feet of the West Main Canal with a dragline. Salt cedar and young cottonwood and willow were sprayed by force account along 3,500 feet of the Main Canal.

2. Roads and Trails. Access roads to the hunting and fishing areas and other roads and dikes were graded as needed during the year. The County Commissioners formally closed seven and one-quarter miles of road within the refuge. The township had maintained only one three mile stretch of these roads in recent years since acquisition.

3. Fences, Signs and Posting. The reflectorized entrance signs, constructed by Treasure Lake Civilian Conservation Center last year, were framed with old telephone poles and given another coat of stain. The numerous directional and information signs for public hunting and fishing seasons were erected and removed as required.

An informal contract was made for construction of chain link fences around the three control structures in the Unit 5 dike for the protection of fishermen and their children.

One mile of new fence was built along a portion of the new canal to permit continued grazing use in a pasture. Another mile was replaced after a range fire. Twelve miles of unused fence were removed from former agricultural lands and old farmsites. Two miles of this was part of an S&M project for leveling an old fence row and reseeding to grass.

4. Buildings and Facilities. A considerable amount of permanent and temporary personnel time was expended in eradicating the remains of old buildings, fences and other accumulations of former civilization of the acquired refuge lands. The old fence posts which were no longer usable were hauled to a central location and burned. The miles of old barbed wire were rolled up and hauled to the dump area near the shop. This and the accumulation of other debris for the past ten years was unceremoniously buried. A new disposal pit was dug in another area to permit proper disposal of future refuge trash.

The final cleanup was made on fifteen locations of former farmsites and gun clubs. The work was accomplished by informal contract for a crawler tractor with front-end loader and operator to salvage available concrete for riprap material from foundations, sidewalks, and floors from former barns, schoolhouses and dwellings. Cellars, basements, wells, toilet pits and septic tanks were filled in and the areas graded level. About half of these were within public hunting areas and hazards to visitors were eliminated as well as making the areas more attractive.

Well points were replaced for windmills in Tracts 5, 59 and 86 and the complete mill and well relocated in Tract 15 during the grazing season.

5. Soil and Moisture. The initial work for reverting approximately 160 acres of farmland to grassland was started in the recently acquired



05/17/68 Maintenceman Miller spreads clayball material over the Unit 11 spillway. The unit is located in loose sandy terrain; flood waters in 1965 washed the spillway nearly a foot lower than it was constructed and the complete unit could not be filled. CRD.



03/11/68 Old fence row on east side of Tract 15, acquired in late 1967. The fence was removed, the sand dunes leveled, and the fence row planted with grass seed. The formerly cultivated land beyond the fence row, the source of the blown sand, is being reverted to grassland. A new fence was constructed this side of the replanted area to permit continued grazing of the grassland in the foreground. CRD.

Tract 15. Fence rows nearly covered with wind blown sand were removed. The sand dunes were leveled, seeded and mulched with hay. A mixture of big and little bluestem, Indiangrass, Blackwell switch and sand love grass was seeded at the rate of 15 lbs./acre. Sixty acres were planted to grass and about thirty acres were planted to milo as preparation of the field for the following year.

One cooperator declined the farming privilege in Tract 46. Fifty acres of the farmland were deep plowed and heavily fertilized before wheat was planted in the fall.

B. Plantings.

1. Aquatic and Marsh Plants. Japanese millet was planted in strips totaling thirty-four acres in Units 24, 26, 48, 49, 61 and 63 in late July and early August. Germination and survival was very poor due to insufficient rainfall. Over 100 acres of milo planted in these units in June had the same results.

2. Trees and Shrubs. None.

3. Upland Herbaceous Planting. Several small areas totaling eight acres were overseeded with the grass seed mixture in Tracts 5, 14, 21a, 59, 80 and 83. There had either been a poor stand or a change in land use on these areas.

4. Cultivated Crops. The cultivation of fields for planting sorghum grain began in April. The fields were planted in late May and early June but the milo either did not germinate or had very little growth until after rains in July.

Agricultural fields in Sections 3 and 11 were redivided and an additional strip of grassland plowed under in Section 14 to provide better strip rotation of crops.

Alfalfa was planted on twenty-two acres in Section 11 and nine acres in Section 3 as permanent cover crop in the fall of 1967. These areas were replanted in the spring of this year and again in the fall in what appears to be unsatisfactory attempts. All but two of the former strips in Section 11 were plowed under after the first hay cutting since they were no longer productive and planted to wheat in the fall. A good seed crop was harvested from the remaining five acres in August.

The eight acres of Elbon rye was a volunteer crop this year and produced much better than expected. Enough seed was harvested to replant the patch and provide ninety bushels for transfer to Salt Plains Refuge.

The 1967-68 wheat allotment was 600 acres. One permittee failed to plant ninety-six acres. Cooperative permittees harvested 342 acres and the refuge planted and harvested 158 acres. Production was below average for the third consecutive year.

The 1968-69 wheat allotment was for 564 acres. The refuge planted 183

acres of which an estimated thirty acres will be plowed under for green manure in the spring.

C. Collections and Receipts.

Seed or other Propagules. Cooperatively farmed wheat returned 2,730 bushels to the refuge bins.

Refuge grown crops returned 1,500 bushels of wheat, 450 bushels of milo, 110 bushels of Elbon rye and 600 lbs. of alfalfa seed.

D. Control of Vegetation.

Reseeded grasslands, summer fallow farm ground, dikes and canal banks were mowed to control weed growth and conserve moisture.

Chemical control was directed primarily to salt cedar (Tamarix gallica) in various water units and canals and ditches. These areas usually contained some cottonwood and willow. Isolated sprouts of Russian olive (Elaeagnus angustifolia) were treated in one pasture. A total of sixty-five acres was sprayed with 2,4-D propylene glycol butyl ester at the rate of one pound acid equivalent per acre with a power sprayer. Preliminary results were poor to good. An eighty per cent kill appeared to have been achieved on 140 acres of these species sprayed in 1967 using .50 lb. A.E./acre with a hand sprayer.

E. Planned Burning. None.

F. Fires.

A military aircraft, F105D Thunderchief, crashed in the northwest corner of Section 14, T21S, R11W in the afternoon of March 8. The resulting fire crossed the refuge boundary one mile eastward before fire fighting equipment could reach the scene. The fire also crossed the refuge boundary one-half mile south of the crash. Approximately 400 acres of refuge pastureland were burned before the fire was contained by Rattlesnake Creek to the south and fire fighters at the eastern limits of the burn after the fire had crossed another section and into Rice County.

Lightning caused a fire in the pasture of Section 3 (Tract 21a) about midnight on June 13. The refuge crew and the Stafford County Fire Department contained the fire to 160 acres. Strong winds pushed the fire against part of the west main canal which was under construction.

Lightning started another pasture fire in S $\frac{1}{2}$ Sec. 18 (Rice County) late in the afternoon of July 12. The fire was discovered by temporary personnel on their way home from work. The fire was contained to five acres when it reached the banks of Rattlesnake Creek.

IV. RESOURCES MANAGEMENT

A. Grazing.

Grazing units were in satisfactory condition at the end of the grazing

season in spite of mid-summer drought. Providing water for livestock in some units proved to be a bigger problem than forage. One grazing unit which depended on Unit 14c for water had to be supplied with a windmill and tank after water was no longer available for the unit.

The burned area in Tract 21a was temporarily fenced to permit recovery.

Range surveys of the grazing units in the fall of 1967 and 1968 showed the units had survived the dry summer months of 1968 with little or no ill effects. Another permittee and 120 AUMs was added with the acquisition of Tract 15. Total AUMs increased from 3,355 to 3,745.

B. Haying.

Special Use Permits were issued to eight permittees who harvested a total of 592.2 tons of native hay and 4.8 tons of alfalfa. Hay production was somewhat less this year and again the fault lay in the extended mid-summer drought.

C. Other Uses.

Oil exploration for the year was confined, with the exception of one dry hole in Sec. 36, to the Big Salt Marsh area. Aspen Drilling Co. brought in three more producers, drilled one dry hole and reported a failure in a wash-down of a previous drilling attempt that had been labeled dry. Mr. J. D. Mooneyhan drilled a well on the north side of Tract 21 which was reported to be a producer but has not as yet been put into production. Mr. Ben Hyde, assisted by Isern Drilling Co., drilled a dry hole in the NE corner of Sec. 4. Raines & Williamson also drilled a dry hole in SWNW $\frac{1}{4}$ of Sec. 36. Geosearch, Inc. drilled a total of 43 shot holes, mostly in the Big Marsh area, for seismographic research.

A no charge Special Use Permit was issued to Aspen Drilling Co. for the use of the west dike of Unit 76 and the north dike of Unit 75. In exchange for the privilege of driving on these dikes they are obliged to maintain the dike top road. This year they have put a total of sixty cubic yards of egg rock and 550 cubic yards of gravel on the dike to maintain access for hauling out the crude oil production.

Refuge receipts during the year are tabulated below.

Grazing, 3,745 AUMs @ \$2.25	\$8,426.25
Hay, native - 592.2 tons @ \$1.50	888.61
Hay, alfalfa - 4.8 tons @ \$3.00	14.70
Dividend, Zenith Cooperative Grain Co.	33.84
Geosearch, Inc. - 43 shot holes @ \$10.00	430.00
Total	\$9,793.40

V. FIELD INVESTIGATION AND APPLIED RESEARCH

A. Progress Report.

The Quivira Refuge was included in the study "Ecology of the Sandhill



10/29/68 Several youth groups made the tour of the Little Salt Marsh and the prairie dog town during the year. CRD.



10/27/68 The annual Hamilton-Duggan Trail Ride made the self-guided trek across the refuge. CRD.

Crane in the Southeastern Central Flyway". The study is being conducted by Mr. James C. Lewis, Assistant Unit Leader, Oklahoma Cooperative Wildlife Research Unit, Oklahoma State University. He made an attempt to collect some cranes in late October but was unsuccessful.

VI. PUBLIC RELATIONS

A. Recreational Use.

The Jayhawk Retriever Club of Wichita, Kansas held an American Kennel Club licensed retriever trial on the refuge March 22-24. The trial was considered an excellent success with 150 dogs entered. The club was headquartered in Great Bend rather than Hutchinson this year due to a conflict in motel reservations. The location of the field trials was moved from the old Hutchinson Gun Club area to the more central area near the refuge shop and utilized Units 28, 29 and 30.

The annual Duggan-Hamilton trail ride was conducted October 27 with an estimated 250 riders participating. The trail ride began west of the Big Salt Marsh on the Duggan ranch, skirted the south end of the marsh, and arrived at the shop area for a lunch stop. The riders left the refuge a mile east of the shop near Darrynane Lake (unit 24).

The Little Salt Marsh was opened to fishing June 1 to September 30 and the access across the dike provided a look-see to many non-fishermen which had not been available before. The prairie dog town north of the Little Marsh was a frequent attraction during the summer as well as to youth groups at other times during the year.

B. Refuge Visitors.

<u>Date</u>	<u>Name</u>	<u>Organization</u>	<u>Purpose</u>
01/04	Marvin Schwilling	KFFG Biologist	Refuge Tour
	Harold Burgess	Ref. Mgr., Squaw Creek NWR	
01/11	Stanley Cornelius	Asst. Mgr., Kirwin NWR	Return grass drill
01/17	Howard Johnson	Mallard Freight Line	Load of Grain
01/22	Dale Moore	Kansas Highway Patrol	Courtesy
01/25	Charles Bostick	Div. of Engineering	Survey work
	Bill Ryan		
01/25	Tom Striegler	U. S. Army	Courtesy
01/29	Maurice Yoder	Hesston College	Sandhill Crane Information
02/05	J. Lisle Morris	Wichita, Ks.	Land Appraisal
02/26	John Spence	KFFG, Enforcement Supvr.	Courtesy
03/15	Maurice Yoder	Hesston College	Observe Sandhill Cranes
04/30	Jack W. Walstrom	SCS - Salina, Ks.	Courtesy
	Dale Smith	SCS- St. John, Ks.	
	Doyle Gillespie, Jr.	SCS - St. John, Ks.	
07/23	Clarence Malone	U. S. Attny., Topeka, Ks.	Land Acquisition
08/07	Frank M. Karsten, Rep.(D)	St. Louis, Mo., Member	Refuge Tour
		Migratory Bird Commission	



03/24/68 Mrs. Marge Kitchen, Olathe, Kansas, won the blue ribbon in the Qualifying Stake of the Jayhawk Retriever Field Trial. Game Management Agent Robinson, Hutchinson, is at the microphone; he was Chairman of the Board in 1968 and President of the club in 1967. CRD.

<u>Date</u>	<u>Name</u>	<u>Organization</u>	<u>Purpose</u>
08/21	Beryl Gustin	Las Vegas NWR	Load of Wheat
08/22	Ivan Wilkinson	SCS - Salina, Ks.	Information
08/28	T. E. Conrardy	Reg. Supvr., Div. of Realty	Land Acquisition
	Dave Kimbrell	Realty	
	Ray St. John	Realty	
	Elmer Nit ₂ schke	Solicitor's Office	
09/04	James C. Lewis	Okla. State Univ.	Scientific Study
09/09	Doug Davis	Newton, Ks.	Scientific Study
09/10	T. E. Conrardy	Reg. Supvr., Div. of Realty	Land Acquisition
10/08	Ray Brown	SCS - Salina, Ks.	Range Survey
11/26	Bob Stratton	Refuge Mgr., Union Slough NWR	Courtesy

The refuge was also visited by many others seeking information about public hunting and fishing, employment, farming, grazing and the refuge program.

C. Refuge Participation.

The following is a tabulation of refuge participation for 1968. All talks, tours and films were conducted by Refuge Manager Darling.

<u>Date</u>	<u>Organization</u>	<u>No. Present</u>	<u>Type of Program</u>
01/15	Stafford 2nd Grade	15	Talk
02/05	Sterling Rotary Club	31	Film
02/08	St. John Lions Club	21	Film
02/26	Rice Co. Historical Society	18	Talk
03/15	Ornithology Class, Hesston College	6	Refuge Tour
03/19	DAR - Macksville	17	Film
04/1-2	Sterling College Biology Class	30	Refuge Tour
04/05	Stafford Girl Scouts	27	Refuge Tour
04/17	Sylvia 5th Grade	24	Film
04/18	Hudson Grade School	60	Film
04/19	Stafford 2nd Grade	30	Film
05/04	Lincoln Elementary, Hutchinson	13	Refuge Tour
05/07	Mid-Kansas Campers, Chase, Ks.	41	Film & Talk
05/08	Stafford 2nd Grade	26	Film
05/09	Stafford High Biology Class	35	Refuge Tour
05/21	Ellinwood School	25	Refuge Tour
05/22	KFFG Interdivision Meeting	80	Talk on refuge development and management
07/06	Emporia High School	17	Refuge Tour
09/19	Stafford 2nd Grade	32	Film
09/27	Hesperian Club, St. John, Ks.	12	Film
10/15	Stafford Rotary Club	11	Film

<u>Date</u>	<u>Organization</u>	<u>No. Present</u>	<u>Type of Program</u>
10/17	Stafford 2nd Grade	33	Film
10/21	Home Culture Club, Sterling	13	Film
10/29	Stafford Cub Scouts	24	Refuge Tour
11/07	Little River Lions Club	23	Talk
11/08	Stafford Optimist Club	27	Talk
11/14	Stafford 2nd Grade	30	Film

A total of seven news releases were prepared during the year and distributed to local newspapers, radio and TV stations.

D. Hunting.

The five refuge hunting areas contained 7,030 acres. The Kansas goose season opened October 12 but goose hunters in the area had little hunting opportunities until a month later. The geese did not consistently fly over the southwest corner of hunting area #3 as they did last year. Water was well distributed to units by early November but the geese roosted on the Little Marsh. They fed primarily on refuge fields out of the hunting areas and did not fly low over the south boundary until the end of the season December 15. Goose hunters had the best success on the weekend of November 16 - 17 when thirty-two Canada geese and twenty-one white-fronted geese were taken.

The state duck season was set for November 2 through December 1. There had been no early duck migrants. The season opened October 21 in 1967 and 46 hunters were checked for 147 birds including 21 Canada geese for an average bag of 3.2 birds per hunter on opening weekend. This year 71 hunters were checked for 37 ducks and no geese for an average bag of 0.52 birds per hunter on the opening weekend and the hunters increased their average time in the field two-tenths of an hour.

Waterfowl hunting was considered very poor in the surrounding areas. Last year the populations and hunting success were considered above average for the area at the time, however many may have considered the luxury as a forecast for the future.

The refuge hunting areas were also open for the state upland game seasons. The ring-necked pheasant season was split for the periods November 9 - December 8 and December 21 - 29. The bobwhite season extended from November 16 to January 12, 1969. The first opening day of the pheasant season was again the greatest use-day by hunters, but there was not as many as last year or throughout the season. There were fewer bobwhite hunters this year. Very few hunters took advantage of the extended season after the first of the year when bad weather prevailed and new licenses were required.

Most of the hunters were from surrounding counties. Some were noted from across the state and more out-of-state license tags were noted than last year. The hunters continued to be pleased with the size and habitat offered for public hunting and there was more unsolicited press coverage.

E. Fishing.

The Little Salt Marsh was opened to public fishing for the first time in its history. The former gun clubs permitted fishing only by restricted permit. The fishing season was limited for the period June 1 to September 30.

The season was preceded by many inquiries and the first printing of fishing maps was soon exhausted and two more editions were required. The opening day was on Saturday and an estimated 400 fishermen lined the dike. Black bullheads provided the bulk of the catch but several channel catfish weighing five to eight pounds were caught. The interest and success continued into July when hot temperatures were accompanied by receding water levels. Nevertheless, there were only a few times throughout the season when there were not at least one or two cars in the fishing area.

F. Violations.

The State Game Protectors frequently patrolled the refuge during the hunting and fishing seasons and continue to give us admirable cooperation. The number of violations was considerably reduced from last year. Violations are listed below. Those with no court costs indicated were the result of cases tried in the Commissioner's court in Hutchinson, Kansas while those with costs indicated were tried by the state Probate Judge in St. John, Kansas. Initials of officials are as follows: Charles Darling - CD; Jim Carroll - JC; Wayne Dale - WD; State Game Protector Dean Deutsch - DD.

<u>Date</u>	<u>Violator</u>	<u>Violation</u>	<u>Fine/Court Cost</u>	<u>Officer</u>
11/02	John Leslie, Pratt	Short Plug	15/0 (Susp.)	JC
11/02	Doug Crissman, Gt. Bend	No Plug	10/11	DD
11/06	Orville Hoefer, Gt. Bend	No Plug	10/11	DD
11/09	Joseph King, Hutchinson	Hunt in closed area.	25/0	CD
11/09	Ralph Gard, Hutchinson	Hunt in closed area.	25/0	CD
11/16	Richard Castle, Wichita	Hunt in closed area.	25/0	WD
11/16	Hayden Beaird, Wichita	Hunt in closed area.	25/0	WD
11/16	Earl Nichols, Wichita	Hunt in closed area.	25/0	WD

G. Safety.

Informal safety meetings were held at irregular intervals during the year. Particular attention was given to safe working conditions and proper equipment during the period of summer employment. There were a few close calls but no injuries were received which required medical attention. The refuge safety record grew to 1,286 days without a lost time accident.

Permanent and two temporary employees attended the Defensive Driving Course conducted by the state highway patrol.

The station was more involved with public safety than ever before. The erection of chain link fences around the water control structures in the Unit 5 dike provided protection from falls and possible drowning. The removal of buildings and leveling farm sites in hunting areas eliminated many hazards of falls and injuries. Parking areas were mowed frequently and roads and dikes graded as needed. The number of parking areas was increased in the hunting areas to discourage hazardous parking along roads and entry through barbed wire fences. Two stiles were built over fences for the convenience of fishermen.

VII. OTHER ITEMS

A. Items of Interest.

Tract 13, SW $\frac{1}{4}$ Sec. 22, T21S, R11W was acquired in September. Two tracts under one ownership remain to be acquired; Tract 8 has been reduced to 160 acres and Tract 8a the remaining 320 acres.

Maintenanceman Earl Miller received his ten-year service pin during the year.

Assistant Manager James Carroll received an incentive award for the idea of using a portable gage inside water control structures where the permanent gages had been pushed over by wind and ice action. Mr. Carroll transferred to the Horicon Refuge in Wisconsin in mid-November. Mike Brownlee, the previous assistant, also moved to Horicon. The Carrolls were blessed with their third child, Peter, in February.

We were fortunate to have Gerald L. Fisher immediately replace Jim Carroll in the middle of the hunting seasons. Jerry was stationed at the Imperial Refuge in 1962-3 and served as a Navy pilot during the interim.

The Refuge Manager and Clerk Wayne Dale attended the wing-bee at Ft. Collins in February.

Mr. Dale prepared Section IV and Sections VI.B., VI.C. and VI.F. and the NR forms of the report.

B. Photographs.

Photographs taken during the year are located throughout and at the end of the report.

Respectfully Submitted

Charles R. Darling

Charles R. Darling, Refuge Manager

January 31, 1969

OK
Reviewed By:

W. Schmidt

Date:

3-7-69

Reviewed By:

Date:

W A T E R F O W L

REFUGE Quivira Nat'l. W/L Refuge, Stafford, Kansas

MONTHS OF January TO April, 1968

(1) Species	(2) Weeks of reporting period									
	1/1-6 1	1/7-13 2	1/14-20 3	1/21-27 4	1/28-2/3 5	2/4-10 6	2/11-17 7	2/18-24 8	2/25-3/2 9	3/3-9 10
<u>Swans:</u>										
Whistling										
Trumpeter										
<u>Geese:</u>										
Canada	1800	5280	5235	8378	9680	11709	7573	9679	8500	5720
Cackling										
Brant										
White-fronted							158	1031	2500	1660
Snow						1	1	1		
Blue					1					
Other										
<u>Ducks:</u>										
Mallard	1501	1719	11000	52009	70165	5260	3357	6187	8920	17086
Black										
Gadwall										
Baldpate				1100		25				1150
Pintail				700	5565	1070	205	720	2611	8115
Green-winged teal								27	205	2773
Blue-winged teal										
Cinnamon teal										
Shoveler				100						175
Wood										
Redhead									280	177
Ring-necked										
Canvasback						75		15	75	60
Scaup						15				25
Goldeneye					18	15			1	22
Bufflehead						30		1		
Ruddy										
Other Comm. Merg.		2			1000	1035	990	1600	1520	1318

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Cont. NR-1

(Rev. March 1953)

WATERFOWL (Continuation Sheet)

REFUGE Quivira Nat'l. W/L Refuge, Stafford, KansasMONTHS OF January TO April, 1968

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total
	3/10-16 11	3/12-23 12	3/24-30 13	3/31-4/6 14	4/7-13 15	4/14-20 16	4/21-27 17	4/28-5/4 18		
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	5760	850	452	65	1			1	515,802	
Cackling										
Brant										
White-fronted	717								12,462	
Snow										
Blue										
Other										
Ducks:										
Mallard	22223	21170	12630	11380	10615	6060	1160	561	1,791,373	
Black										
Gadwall		1055	1005	3925	2630	80	100	132	85,589	
Baldpate	175	180	530	515	1170	75	55	1	29,253	
Pintail	17367	19925	8565	8225	8565	565	510	30	597,586	
Green-winged teal	1130	7785	2925	3265	1150	35	21	12	156,527	
Blue-winged teal		20	925	3130	1735	1600	1215	596	85,517	
Cinnamon teal		5							35	
Shoveler	1180	10515	5735	3965	6760	5385	1226	816	251,119	
Wood										
Redhead	885	870	325	325	375	135	10	10	23,951	
Ring-necked		75	85		15		16		1,517	
Canvasback	1	165	105	100	110	31	10		5,229	
Scaup	160	215	105	230	390	255	130	8	10,911	
Goldeneye	210	10	15	55	10				3,122	
Bufflehead	209	1325	1350	595	915	85	130	7	3,231	
Ruddy			290	90	395	885	1355	286	23,192	
Other Comm. Merg.	380	15		10	115				55,020	
Coot:	1		125	285	545	1520	3745	1288	52,563	

(over)

	(5)	(6)	(7)
	Total Days Use	Peak Number	Total Production
Swans			
Geese	558,292	11,000	
Ducks	3,108,868	76,748	
Coots	52,563	3,745	

SUMMARY

Principal feeding areas Refuge mile and wheat fields.

flooded water units. fields adjacent to the refuge.

Principal nesting areas _____

Reported by

Charles R. Darling, Refuge Manager

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

WATERFOWL

REFUGE QUIVIRA NATL WIL REFUGE

MONTHS OF MAY TO AUGUST, 1968

(1) Species	(2) Weeks of reporting period									
	5/1-4 1	5/5-11 2	5/12-18 3	5/19-25 4	5/26-31 5	6/1-8 6	6/9-15 7	6/16-22 8	6/23-29 9	7/1-6 10
<u>Swans:</u>										
Whistling										
Trumpeter										
<u>Geese:</u>										
Canada			3							
Cackling										
Brant										
White-fronted										
Snow	1									
Blue										
Other										
<u>Ducks:</u>										
Mallard	564	67	119	70	42	152	220	118	87	111
Black										
Gadwall	132	169	105	82	15	39	7	4		
Baldpate	4		72			30	7		5	
Pintail	30	10	50	9	7	12	22	1	6	2
Green-winged teal	42	2				3		1		1
Blue-winged teal	596	280	275	393	274	388	204	89	172	159
Cinnamon teal										
Shoveler	846	786	988	379	353	198	124	14		
Wood								1		
Redhead	40	12	4	1	9	6	3	2	4	4
Ring-necked										
Canvasback		6				1				
Scaup	8	35	37	19	24	2	7	3	2	
Goldeneye										
Bufflehead	7									
Ruddy	286	65	20	90	17	35	21	4		
Other										
 COOT	 1228	 1393	 974	 1365	 978	 546	 524	 83	 38	 12

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WATERFOWL
(Continuation Sheet)

REFUGE QUIVIRA NATL WIL REFUGE

MONTHS OF MAY TO AUGUST, 19 68

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production : Broods: Estimated : seen : total	
	7/7-13	7/14-20	7/21-27	7/28-31	8/1-10	8/11-17	8/18-24	8/25-31			
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada									21		
Cackling											
Brant											
White-fronted											
Snow									7		
Blue											
Other											
Ducks:											
Mallard	129	111	192	117	70	263	184	305	20,377	25	201
Black											
Gadwall									3,871		
Baldpate			2						890		
Pintail		2			1	4	4	4	1,183		
Green-winged teal		2		5					399		
Blue-winged teal	196	95	72	151	155	341	923	1100	41,041	13	106
Cinnamon teal											
Shoveler	2								25,830		
Wood											
Redhead	1	1	1	1	1				630		
Ring-necked						1	1	1	21		
Canvasback											
Scaup	4	2		1	2	1	1	1	973		
Goldeneye											
Bufflehead									49		
Ruddy			1	1	1				3,787		
Other											
Coot:	45	5		26	31		1		50,743	4	28

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production	SUMMARY
Swans				Principal feeding areas <u>UNITS 5, 7, 14a, 14b, 23, 25</u>
Geese	<u>28</u>	<u>3</u>	<u>—</u>	<u>30.62</u>
Ducks	<u>99,001</u>	<u>2,555</u>	<u>307</u>	Principal nesting areas <u>UNITS 25, 30.62</u>
Coots	<u>50,743</u>	<u>1,393</u>	<u>28</u>	

Reported by

C. R. D.
CHARLES R. DARLING, REF. MGR.

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

WATERFOWL

REFUGE QUIVIRA NATL W/L REFUGE

MONTHS OF SEPT. TO DEC., 1968

(1) Species	(2) Weeks of reporting period									
	9/1-7 1	9/8-14 2	9/15-21 3	9/22-28 4	9/29-10/5 5	10/6-12 6	10/13-19 7	10/20-26 8	10/27-11/2 9	11/3-9 10
<u>Swans:</u>										
Whistling										
Trumpeter										
<u>Geese:</u>										
Canada					28		17	200	330	670
Cackling										
Brant										
White-fronted				230			55			
Snow										4
Blue										2
Other										
<u>Ducks:</u>										
Mallard	330	440	475	550	150	200	750	900	4500	6000
Black										
Gadwall			22		100	1000	100	100	1000	500
Baldpate	170	145	130	130	300	800	200	60	400	230
Pintail	2			25	40	300	200	200	500	4200
Green-winged teal			40	15	30	20	500	50	200	1000
Blue-winged teal	630	680	300	100	170	130	50	20		
Cinnamon teal										
Shoveler			50	25	10	10	100	30	50	200
Wood										
Redhead										
Ring-necked							25			20
Canvasback									22	18
Scaup	1	1	1							90
Goldeneye										
Bufflehead								1	8	
Ruddy							15		2	
Other										
<u>Coot:</u>	10	20	20	80	50	50	100	200	50	20

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WATERFOWL
(Continuation Sheet)

REFUGE QUINIRA NATL WIL REFUGE

MONTHS OF SEPT TO DEC, 19 68

(1) Species	Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total
	11/10-16	11/17-23	11/24-30	12/1-7	12/8-14	12/15-21	12/22-28	12/29-31		
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	5520	1320	920	952	1200	900	1402	715	96,358	
Cackling										
Brant										
White-fronted	302			2					4,123	
Snow	7	6			2	2	1	1	157	
Blue	9	2				2	2	1	122	
Other										
Ducks:										
Mallard	116360	21160	21160	32901	34000	36255	30030	8000	1,467,127	
Black										
Gadwall	50			4					20,123	
Baldpate	10	25	25						18,375	
Pintail	320	355	355	250	130	100	50	100	49,489	
Green-winged teal	900	4630	4630	16370	1100	500	100		140,595	
Blue-winged teal									14,560	
Cinnamon teal										
Shoveler				100					4,025	
Wood										
Redhead									329	
Ring-necked	10								77	
Canvasback									280	
Scaup	6								693	
Goldeneye							6		42	
Bufflehead	16		10	10	5				350	
Ruddy	1	10		5	20	20			511	
Other Comm. MGRG.		8	8	35					357	
Coot:	10	10							4,390	

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	—	—	—
Geese	100,760	5,838	—
Ducks	1,716,942	39,675	—
Coots	4,340	200	—

SUMMARY

Principal feeding areas UNITS 5, 48, 49

Principal nesting areas NONE

Reported by C.R.D.
CHARLES R. DARLING, REFUGE MANAGER

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

(Aug. 1952)

(Other than Waterfowl)

Refuge Quivira Nat'l. W/L Refuge Months of January to April, 1968

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production		(6) Total
Common Name	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young Estimated Use
I. Water and Marsh Birds:									
Pied-billed Grebe	1	3/29	120	4/17	Summer Resident				3,000
Eared Grebe	18	4/17	18	4/17	Present				360
White Pelican	250	3/13	1450	4/23	Present				21,250
D-C Cormorant	3	3/29	224	4/17	Present				5,000
Great Blue Heron	1	1/15	11	4/10	Summer Resident				500
Wilson's Phalarope	180	3/21	500	4/30	Present				12,000
Common Egret	1	4/30	1	4/30	Only one record				1
II. Shorebirds, Gulls and Terns:									
Sandhill Crane	24	3/5	1800	3/15	35	4/17			30,600
Greater Yellowlegs	3	4/10	22	4/23	End of Period				210
Lesser Yellowlegs	15	3/21	32	4/30	End of Period				750
American Avocet	3	4/17	25	4/30	Present				150
Ring-billed Gull	1400	1/30	2300	2/20	17	4/27			59,500
Franklin's Gull	50	4/10	5000	4/20	Present				55,000
Killdeer	20	3/13	500	3/21	Present				22,500
Baird's Sandpiper	55	3/13	55	3/13	10	4/30			2,200
Semi-palmated Sandpiper	70	3/21	70	3/21	40	4/30			2,550
Least Sandpiper	2	4/17	10	4/30	Present				80
Dowitcher	3	3/29	65	4/4	Present				650
Common Snipe	2	4/23	20	4/30	Present				100
Upland Plover	1	4/30	1	4/30	Present				1
(over)									

(1)	(2)	(3)	(4)	(5)	(6)		
III. Doves and Pigeons:							
Mourning dove	12	present	1000	4/30	Summer Resident	32,000	
White-winged dove							
IV. Predaceous Birds:							
Golden eagle	6	present	6	1/1	1	4/11	480
Duck hawk							
Horned owl	Resident		15		Permanent Resident		1,800
Magpie							
Raven Turkey Vulture	1	4/1	3	4/9	Present		90
Crow	250	present	250	1/1	51	4/30	19,500
Sharp-shinned Hawk	2	present	2	1/1	1	3/20	160
Red-tailed Hawk	1	present	2	2/20	Present		350
Swainson's Hawk	1	3/28	12	4/30	Summer Resident		275
Rough-legged Hawk	3	1/22	5	2/12	2	3/12	150
Bald Eagle	12	present	17	2/5	1	4/12	1,220
Marsh Hawk	41	present	41	1/1	1	3/28	1,980
Sparrow Hawk	7	present	30	March	Permanent Resident		1,710
Burrowing Owl	2	4/1	12	4/30	Present		250
Short-eared Owl	5	present	5	1/1	2	3/12	300

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (1) **Species:** Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
 II. Shorebirds, Gulls and Terns (Charadriiformes)
 III. Doves and Pigeons (Columbiformes)
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) **First Seen:** The first migration record for the species for the reporting period.
- (3) **Peak Numbers:** Estimated number and inclusive dates when peak population of the species occurred.
- (4) **Last Seen:** The last refuge record for the species during the season concerned.
- (5) **Production:** Estimated number of young produced based on observations and actual counts.
- (6) **Total:** Estimated species days use (average population X no. days present) of refuge during the reporting period.

3-1751
Form NR-1A
(Aug. 1952)

MIGRATORY BIRDS
(Other than Waterfowl)

Refuge Quivira NWR Months of May to August, 19 68

(1) Species		(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
Common Name		Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
I. <u>Water and Marsh Birds:</u>											
Eared Grebe	10	present	270	5/5-5/12	30	6/11					2,911
Pied Billed Grebe	20	present	23	6/9-6/15	4	present		1		4	1,436
White Pelican	8	present	230	5/13-5/19	12	7/1					2,569
D-C Cormorant	15	present	16	5/22-5/28	3	present					392
Great Blue Heron	13	present	100	7/22-8/17	88	present					5,166
Little Blue Heron	1	6/11	1	6/11	1	6/11					7
Green Heron	1	5/6	23	8/13	15	present					857
B/C Night Heron	1	5/8	12	6/16-6/22	8	present					726
American Bittern	3	5/1	23	8/11-8/17	19	present		4		8	1,109
Virginia Rail	2	7/22	2	7/22-8/17	2	8/17					52
Common Egret	1	6/1	1	6/1-present	1	present					92
Snowy Egret	3	8/19	3	8/19-present	3	present					36
II. <u>Shorebirds, Gulls and Terns:</u>											
Snowy Plover	6	present	6	5/1-5/7	5	present					139
Killdeer	350	present	450	7/15-present	450	present		33		100	36,900
Black-bellied Plover	243	5/13	243	5/13-19	243	5/19					1,701
Common Snipe	2	present	2	6-4-present	2	6/4					68
Long-billed Curlew	1	5/13	1	5/13-19	1	5/19					7
Upland Plover	1	present	5	8/17-present	5	present					340
Spotted Sandpiper	4	5/1	134	7/22-7/28	30	8/17		1		5	2,867
Willet	4	5/6	4	5/6-5/12	2	5/19					42
Greater Yellowlegs	12	present	66	7/22-7/28	7	present					1,134
Lesser Yellowlegs	32	present	268	7/22-7/28	93	present					6,216
Pectoral Sandpiper	80	5/1	95	5/6-5/12	51	8/17					3,074
White-rumped Sandpiper	2	5/6	2	5/6-5/12	2	5/12					14
Saird's Sandpiper	4	5/13	4	5/13-5/19	4	5/19					28
Least Sandpiper	42	5/13	1500	8/19-present	1500	present					31,850
Dowitcher	26	present	138	5/6-5/12	85	present					3,850
Semipalmated Sandpiper	85	5/13	1500	8/19-present	1500	present					27,881
						(over)					

Form NR-1A
(Aug. 1952)

MIGRATORY BIRDS
(Other than Waterfowl)

Months of May

to August, 19 68

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
I. <u>Water and Marsh Birds:</u>										

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u> Mourning dove White-winged dove	Present	3000	July-Aug.	Present	1,800 255,000
IV. <u>Predaceous Birds:</u> Golden eagle Duck hawk Horned owl Magpie Raven Crow Swainson's Hawk Red-tailed Hawk Marsh Hawk Mississippi Kite Sparrow Hawk Burrowing Owl Turkey Vulture	Resident 10 7/22 3 7/1 2 7/22 3 5/13 1 6/1 1 5/6 12 present 1 present	15 19 17 3 10 2 5 120 1	8/11-present 8/11-8/17 8/11-present 8/11-8/17 7/28-8/17 8/19-present 7/1-present May-Aug.	19 6 3 5 1 5 120 1 present present present present present present present present	609 329 97 459 118 134 8,376 123
Reported by <u>CRD</u>					

INSTRUCTIONS

(See Sec. 7532, Wildlife Refuges Field Manual)

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated species days use (average population X no. days present) of refuge during the reporting period.

3-1751

Form NR-1A

(Aug. 1952)

MIGRATORY BIRDS

(Other than Waterfowl)

Refuge Quivira Nat'l. W/L Refuge Months of September to December, 1968

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
I. <u>Water and Marsh Birds:</u>										
Pied-billed Grebe			Only one	record	2	9/10				10
White Pelican	34	9/3	2,540	9/24	4	11/4				59724
Double-crested Cormorant	15	9/24	39	10/1	1	11/19				448
Great Blue Heron	Present		50	9/5	1	10/8				1200
B-C Night Heron	4	9/3	4	Early Sept.	1	10/8				50
American Bittern	Summer Resident		15	Early Sept.	1	10/1				200
White-faced Ibis	1	9/3	Only the	one record						
Sandhill Crane	6	9/24	1500	10/28	84	11/19				10500
II. <u>Shorebirds, Gulls and Terns:</u>										
Snowy Plover	Summer Resident		8	Early Sept.	3	9/5				30
Killdeer	Summer Resident		200	" "	12	11/4				6000
Common Snipe	Summer Resident				1	12/30				120
Upland Plover	1	9/3	1	Early Sept.	1	9/5				5
Spotted Sandpiper	Summer Resident		15	Early Sept.	12	9/12				200
Greater Yellowlegs	Summer Resident		40	Mid Sept.	10	11/19				700
Lesser Yellowlegs	Summer Resident		60	Early Sept.	1	10/15				1500
Least Sandpiper	Summer Resident		800	Early Sept.	6	10/28				12000
Dowitcher	Summer Resident		50	Early Sept.	7	10/21				1246
Semipalmated Sandpiper	Summer Resident		800	Early Sept.	19	9/19				12000
American Avocet	Summer Resident		70	Early Oct.	30	10/15				950
Wilson's Phalarope	Summer Resident		40	Early Sept.	20	10/8				3500
Ring-billed Gull	Summer Resident		90	Oct. 1	10	12/9				3000
Franklin's Gull	Summer Resident		4000	10/15	2000	10/21				90500
Common Tern	6	9/3	Only the	one record						6
(over)										

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u>					
Mourning dove	Summer Resident	3000	Early Sept.	3	12/23
White-winged dove					90000
IV. <u>Predaceous Birds:</u>					
Golden eagle	2	11/19	7	12/2	1
Duck Hawk Turkey Vulture	1	9/26	2	10/1	2
Horned owl	Permanent Res.	12	Period	8	12/23
Magpie Bald Eagle	1	10/8	12	11/25	6
Raven					12/30
Crow	Permanent Res.	5000	Early Nov.	120	12/30
Sharp-shinned Hawk	1	11/19	4	12/23	4
Cooper's Hawk	1	12/23	Only the one record		
Red-tailed Hawk	2	10/1	2	Oct.-Dec.	2
Swainson's Hawk	Summer Resident	11	9/19	2	12/16
Roughlegged Hawk	2	9/19	11	12/23	2
Marsh Hawk	Perm. Res.	70	12/23	12	12/30
Sparrow Hawk	Summer Resident	11	9/19	1	12/30
Short-eared Owl	2	12/16	4	12/23	4
Long-eared Owl	1	12/23	Only the one record.		
Reported by <u>Charles R. Darling</u>					

INSTRUCTIONS

(See Sec. 7532, Wildlife Refuges Field Manual)

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated species days ~~use~~ (average population X no. days present) of refuge during the reporting period.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Quivira Nat'l. W/L Refuge Months of January to April, 1968

(1) Species	(2) Density	(3) Young Produced	(4) Sex Ratio	(5) Removals	(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Estimated Total	Hunting For Re- stocking For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	Marshes, brush, Shelterbelts, fence rows, wild plum thickets, willow thickets, tall- grass prairie lands, 16,000 a.	6.4			2,500	Losses were light during this period due to mild spring weather and few late winter storms.
Bobwhite	-do-	5.3			3,000	

* Only columns applicable to the period covered should be used.

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES:	Use correct common name.	(4) Sex	(3) Young	(2) Density	(1) Species
(2) DENSITY:	Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.				
(3) YOUNG PRODUCED:	Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.				
(4) SEX RATIO:	This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.				
(5) REMOVALS:	Indicate total number in each category removed during the report period.				
(6) TOTAL:	Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.				
(7) REMARKS:	Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.				

* Only columns applicable to the period covered should be used.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Quivira Nat'l. W/L Refuge Months of May to August, 19 68

(1) Species	(2) Density		(3) Young Produced	(4) Sex Ratio	(5) Removals	(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd. Estimated Total	Percentage	Hunting For Re- stocking For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	Marshes, brush, shelterbelts, fence rows, wild plum thickets, willow thickets, tall prairie grasses	5.5	22 2,000	50-50		4,000	Very favorable pro- duction year with no hard rain or hail storms. Abundant weed seed production.
Bobwhite	" " "	3.6	18 3,000	50-50		6,000	" "

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Quivira Nat'l. W/L Refuge Months of September to December, 1968

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'y'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	Marshes, Brush, shelterbelts, fence rows, wild plum thickets, willow thickets, tall grass prairie lands. 16,000 acres	6.4			50-50	150			2,500	
Bobwhite	nn nn	5.3			50-50	140			3,000	

3-1750b
Form NR-1B
(Rev. Nov. 1957)

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Quivira Nat'l. W.L. Refuge For 12-month period ending August 31, 1968

Reported by Charles R. Darling Title Refuge Manager

(1)	(2)		(3)	(4)	(5)	
Area or Unit	Habitat			Breeding		
Designation	Type	Acreage	Use-days	Population	Production	
A	Crops	260	Ducks	4,438,025	30	19
	Upland	1220	Geese	621,376		
	Marsh	440	Swans			
	Water	640	Coots	25,975		
	Total	2560	Total	5,085,376	30	19
B	Crops	23	Ducks	41,279		
	Upland	822	Geese	2,114		
	Marsh	90	Swans			
	Water	25	Coots	74		
	Total	960	Total	44,107		
C	Crops	850	Ducks	1,604,067	180	237
	Upland	3810	Geese	88,312		
	Marsh	80	Swans			
	Water	60	Coots		12	28
	Total	4800	Total	1,763,335	192	265
D	Crops	700	Ducks	16,079	4	10
	Upland	1840	Geese			
	Marsh	20	Swans			
	Water		Coots	399		
	Total	2560	Total	16,478	4	10
E	Crops	410	Ducks	181,454	30	41
	Upland	3620	Geese	17,990		
	Marsh	80	Swans			
	Water	50	Coots	15,752		
	Total	4160	Total	215,196	30	41
F	Crops		Ducks	374,080		
	Upland	700	Geese	10,073		
	Marsh	3940	Swans			
	Water	720	Coots	45,874		
	Total	5360	Total	430,027		
G	Crops	160	Ducks	9,331		
	Upland	1380	Geese	3,108		
	Marsh	40	Swans			
	Water	20	Coots	6,790		
	Total	1600	Total	19,229		

(over)

3-1750c
Form NR-1C
(Sept. 1960)

WATERFOWL HUNTER KILL SURVEY

Refuge Quivira National Wildlife Refuge, Stafford, Kansas

Year 1968

(1) Weeks of Hunting	(2) No. Hunters Checked	(3) Hunter Hours	(4) Waterfowl Species and Nos. of Each Bagged	(5) Total Bagged	(6) Crippling Loss	(7) Total Kill	(8) Est. No. of Hunters	(9) Est. Total Kill
11/2-8	71	284	GW Teal(14), Mallard(7), L. Scaup(6), Redhead(3), Pintail(2), Shoveller(2), Ringneck(1), Bufflehead(1) Wood Duck(1)	37	-	37	365	189
11/9-15	74	296	Mallard(11), GW Teal(6), Pintail(5), Bufflehead(3), L.Scaup(2), BW Teal(1)	28	-	28	185	70
11/16-22	33	132	C.Goose(32), W-F Goose(21), Mallard(11), GW Teal(2)	66	-	66	205	409
11/23-29	25	100	C.Goose(17), Mallard(16), GW Teal(5), Pintail(1), BW Teal(1), L. Scaup(1)	41	1	42	200	336
11/30-12/6	25	100	Mallard(11), C.Goose(4), W-F Goose(2)	17	-	17	160	109
12/7-13	6	24	C.Goose(6)	6	-	6	16	16
12/14-15	6	24	C.Goose(4)	4	-	4	10	7
Totals	240	960	<div>SUMMARY</div> <div> Canada Goose - 63 Mallard - 56 W-F Goose - 23 G-W Teal - 27 Total 86 L. Scaup - 9 Pintail - 8 Bufflehead - 4 Redhead - 3 Shoveller - 2 B-W Teal - 2 Wood Duck - 1 Ringneck - 1 Total 113 </div>	199	1	200	1111	1136

(over)

3-1753
Form NR-3
(June 1945)

BIG GAME

Refuge Quivira Nat'l. W/L Refuge Calendar Year 1968

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
			Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At Period of Greatest Use	As of Dec. 31	
Common Name	Cover Types, Total Acreage of Habitat	Number												
White-tailed Deer	Shelterbelts, tall prairie grasses, timber claims and salt cedar thickets. 20,000 acres	25	**									100	80	1:1
Rio Grande Turkey	Shelterbelts, tall grass land, timber claims. 600 acres	4										7	3	2:1

Remarks: ** Three known road kills by vehicles on public roads within the refuge, at least four hunter kills during the hunting season on lands adjacent to the refuge.

Reported by

CRD

Charles R. Darling, Refuge Manager

3-1754
Form NR-4
(June 1945)

SMALL MAMMALS

Refuge Quivira Nat'l. W/L Refuge

Year ending April 30, 1968

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs					(5) Total	
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re- stocking	For Re- search	Share Trapping			Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	Popula- tion
								Permit Number	Trappers Share	Refuge share				
Opossum	Upland woods and range, 15,000 a.	100												150
Raccoon	22,000 a.	175												125
Mink	Streams and Marshes, 10,000 a.	500												20
Skunk	22,000 a.	100												250
Badger	Upland Sand Hills 6,000 a.	120												50
Coyote	22,000 a.	440												50
Blacktail														
Prairie Dog	100 a.	.08												1250
Fox Squirrel	Shelterbelts, 100 a.	1												100
Beaver	Rattlesnake Creek, Horseshoe Lake	1.5												35
Blacktail	Upland range and													
Jackrabbit	Shelterbelts, 16,000 a.	1600												10
Cottontail	-do-	4												4000
Muskrat	Ponds, 2,500 a.	6												400
Weasel	Streams and Marshes 6,000 a.	400												15
* List removals by Predator Animal Hunter														

* List removals by Predator Animal Hunter

REMARKS:

Reported by Charles R. Darling, Refuge Manager

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
- (2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprime-ness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.
- REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

1-1757
Form NR-7
Rev. June 1960)

NONAGRICULTURAL COLLECTIONS, RECEIPTS, AND PLANTINGS (1)

Refuge Quivira Nat'l. W/L Refuge, Stafford, Kansas Year 1968

Collections and Receipts (Seeds, rootstocks, trees, shrubs)							Plantings (Marsh - Aquatic - Upland)						
Species	Amount (Lbs., bus., etc.)	(2) C or R	Date	Method or Source	Cost	(3) Total Amount on Hand	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount and Nature of Propagules	Date	Survival	Cause of Loss
							Units 26, 48, 49, 61 & 63	5#/acre	110 acres	550 lbs. Milo	June	Poor	severe drought
							Units 24, 26, 48, 49, 61 & 63	15#/acre	34 acres	500 lbs. Japanese Millet	Aug.	Poor	severe drought

- 1) Report agronomic farm crops on Form NR-8
- 2) C = Collections and R = Receipts
- 3) Use "S" to denote surplus

Total acreage planted:

Marsh and aquatic 114 acres
hedgerows, cover patches _____
Food strips, food patches _____
Forest plantings _____

Remarks: Water Units planted for waterfowl food.

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle	80	400	\$900.00	640
				2. Other				
				1. Total Refuge Acreage Under Cultivation				
Hay - Wild				2. Acreage Cultivated as Service Operation				

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Quivira Nat'l. W/L Refuge County Rice State Kansas

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage	Green Manure, Cover and Water- fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested Acres	Bu./Tons	Unharvested Acres	Bu./Tons			
Wheat	60	900 bu.	20	300 bu.			80	Planted and volunteer wheat available for browse. 80 a. vol- unteer wheat to be turned under for green manure in spring of 1969.	160
Milo	53	800 bu.			27	400 bu.	80		
								Fallow Ag. Land	80

No. of Permittees: Agricultural Operations 3 Haying Operations Grazing Operations 2

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle	52	260	\$585.00	400
				2. Other				
				1. Total Refuge Acreage Under Cultivation				240
Hay - Wild				2. Acreage Cultivated as Service Operation				0

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Quivira Nat'l. W/L Refuge County Stafford State Kansas

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage	Green Manure, Cover and Water- fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested		Unharvested				
			Acres	Bu./Tons	Acres	Bu./Tons			
Winter wheat	197	2790 bu.	65	930 bu.			262	428 acres planted to wheat & rye plus 80 acres volunteer wheat all available for green browse	
Winter wheat(gov't)			158	1500 bu.			158		
Milo	184	1800 bu.			92	900 bu.	276		
Milo (gov't)			50	450 bu.	60	300 bu.	110		
Rye (gov't)			8	110 bu.			8		
								Fallow Ag. Land	394

No. of Permittees: Agricultural Operations 5 Haying Operations 8 Grazing Operations 15

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
Alfalfa	4.8	15	\$14.70	1. Cattle	617	3085	\$6,941.25	4820
				2. Other				
				1. Total Refuge Acreage Under Cultivation				1,700
Hay - Wild	592.2	500	\$888.61	2. Acreage Cultivated as Service Operation				592

3-1079 (NR-12)
(9/63)

Bureau of Sport Fisheries and Wildlife

Refuge

Quivira Nat'l. W/L Refuge

ANNUAL REPORT OF PESTICIDE APPLICATION

Proposal Number

I-68

Reporting Year

1968

INSTRUCTIONS: Wildlife Refuge Manual, secs. 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
April to Oct.	Mosquitoes & Biting Gnats	Refuge Headquarters and Shop Area	5	57% Emulsifiable Concentrate Malathion	1 qt.	.04lbs/acre	Kerosene	Fogging Machine

10. Summary of results (continue on reverse side, if necessary)

Four applications during the summer with favorable results.

3-1979 (NR-12)
(9/63)

Bureau of Sport Fisheries and Wildlife

ANNUAL REPORT OF PESTICIDE APPLICATION

Refuge

Quivira Nat'l. W/L Refuge

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
June thru Sept.	Russian Olive, Cottonwood, Sandbar Willow, Tamarix	Units 5, 11, 16, 14, 20, 24, 26, and various dike and canal banks	65 a.	^{2,4-D} Propylene Glycol Butyl Ester, 4lb. A.E./gal	16 gal.	1.0lb. A.E./A.	Diesel Fuel or Water	Power & Hand Sprayer

10. Summary of results (continue on reverse side, if necessary)

Results hard to evaluate until the following year. Results from spraying in 1967 were favorable with 80% kill.

CHRISTMAS BIRD COUNT

By: Charles R. Darling, Refuge Manager
Gerald L. Fisher, Asst. Refuge Manager
Wayne E. Dale, Refuge Clerk

Quivira National Wildlife Refuge, Stafford, Kansas, 38°09' N, 98°29' W (all points within a 15 mile diameter circle with the center at the Refuge sub-headquarters). The Quivira Count Area lies in NE Stafford, NW Reno and SW Rice Counties, Kansas. Principal terrain features are Rattlesnake Creek, Little Salt Marsh and Big Salt Marsh. The creek enters the count area in the SW quarter of the circle, flows easterly into the Little Salt Marsh, thence northerly along the eastern side of the Big Salt Marsh. After leaving the Big Salt Marsh area, it flows easterly into the Arkansas River. The central part of the count area is rather flat and either of marsh type or with a very high water table. The east and west sides of the area are characterized by low sandhills and dunes, interspersed with ponds during wet seasons. Vegetative types are: native tall grasses, marsh grasses, cottonwood and willow groves and scattered wheat and milo fields.

December 23, 1968; 0745 a.m. to 6:00 p.m. Temp. 10°F. to 28°F.; wind average 10 mph; clear skies with 1" to 3" snow cover; most water units ice-covered. Three observers in two parties. Total party hours 18.5; total party miles 87.5, 3.5 on foot and 84 by vehicle.

Canada goose	1402	Yellow-shafted flicker	4
Snow goose	1	Red-shafted flicker	11
Blue Goose	2	Downy woodpecker	2
Mallard	30030	Blue jay	7
Green-winged teal	100	Common crow	97
Common goldeneye	6	Black-capped chickadee	19
Sharp-shinned hawk	4	Logger head shrike	2
Cooper's hawk	1	Starling	249
Red-tailed Hawk	2	Robin	1
Rough-legged hawk	11	Meadowlark	266
Golden eagle	4	Red-winged blackbird	953
Bald eagle	8	Brewer's blackbird	2
Marsh hawk	70	Brown-headed cowbird	1
Sparrow hawk	10	Cardinal	10
Bobwhite	166	Slate-colored Junco	22
Ring-necked pheasant	88	Tree sparrow	1477
Common snipe	1	Song sparrow	43
Mourning dove	3	White-crowned sparrow	1
Great horned owl	8	Harris' sparrow	49
Long-eared owl	1	House sparrow	45
Short-eared owl	4		

41 Species
35,183 Individuals

Seen in area count period but not on count day: Pintail, Red-bellied Woodpecker.



03/14/68 An S&M project included filling an old ensilage pit in the extreme northeast corner of the refuge. The weed growth on the banks of the pit obscured vision at the intersection. The corner is now cultivated with the remainder of the field. CRD.





05/17/68 The diversion structure, RC-A, for the Rattlesnake Creek Canal was located in a bend of the creek channel. The coffer dam for diverting the creek flow behind the crane is visible. Corrugated steel piling was driven as footing for the structure. CRD.



06/20/68 Construction of structure RC-A was completed in June. JMC.



10/18/68 Structure RC-A was subjected to a full creek after the mid-October rains. The creek had left its banks on both sides upstream from the structure; eventually it did so downstream, just behind the point where the picture was taken. The Rattlesnake Creek Canal is beyond the concrete curbing at right. CRD.



10/18/68 The Rattlesnake Creek Canal at structure RC-A. CRD.



10/18/68 Structure RC-A diverts water from Rattlesnake Creek to the Big Salt Marsh and Units 61 and 63.
CRD.



10/20/68 Mid-October rains filled Unit 5 to overflowing. The downstream side of the main control structure, A-2, empties into the bank full channel of Rattlesnake Creek. CRD.



10/18/68 Rattlesnake Creek began to leave its banks early in the flood stage near structure RC-A at the left. The creek channel turns back diagonally to the right. CRD.

VIP AT REFUGE

Congressman Frank M. Karsten (D-Mo.) recently visited the Quivira National Wildlife Refuge. Congressman Karsten, accompanied by Mrs. Karsten, as a member of the Migratory Bird Conservation Commission, was visiting various federal wildlife refuges in the Kansas-Oklahoma area. The Commission approves the acquisition of lands and the expenditure of Duck Stamp funds for areas incorporated in the Department of Interior's waterfowl refuges administered by the Fish and Wildlife Service, Bureau of Sport Fisheries and Wildlife.

Congressman and Mrs. Karsten toured the length of the refuge with Refuge Manager Darling on a familiarization tour of the acquired lands, current construction and previously constructed water impoundment areas.

Stafford Courier, Stafford,
Kansas 08/15/68

Annual Trail Ride Date Is Announced

The trail ride through the Great Salt Marsh country, annually sponsored by Mr. and Mrs. Ted Duggan and the Jack Hamilton family, will be held Sunday, Oct. 27.

This event, anticipated for many months by horsemen throughout this entire area of Kansas, draws more riders each year with more than 130 participating in the 1967 event. This large number of riders attended despite the cold, wet, raw day that dawned for the ride.

A healthy breakfast of sausage, eggs and cakes will be served at the Duggan farm from 7:00 to 9:00 a.m. prior to the start of the ride. A nominal fee will be charged for the breakfast that will be served as a convenience to the riders.

Everyone will bring his own food for lunch. A wiener roast is planned for the evening meal at the Hamilton ranch where the ride will terminate. Individuals may bring their own food or utilize the food that will be available.

Noon stop will be made at the Quivira Wildlife Refuge shop. Any one wishing to join the group at this point may do so.

Anyone capable of riding a horse and who enjoys the companionship of other horsemen on a ride through beautiful country is invited to participate in the 1968 Salt Marsh Trail Ride.

Horsemen unfamiliar with the location of the Duggan farm may find it by traveling 15 miles north of Stafford on the Ellinwood road, one mile east, one half mile north; from Hudson it is three miles east, six miles north, one mile east, one half mile north; from the intersection of the Stafford-Ellinwood road and K-19, two miles north, one mile east, one half mile north. These directions were given The Courier by Mr. Duggan so they should be correct.

Stafford Courier

10/17/68

250 Riders

Tour Game

Refuge

Several Hutchinson families braved chilly winds Sunday to participate in the sixth annual horseback ride across the Quivira Wildlife Refuge in Stafford and Reno Counties.

The 250 riders represented 27 towns. They began the day-long trek at the Thomas Duggan home near Hudson and ended, 20 miles later, at the Jack Hamilton farm near Sylvia.

The Duggans had breakfast available for riders. The Hamiltons served large frankfurters roasted on pitchforks over a big fire. About 100 pounds of franks were consumed.

With the large caravan of horses were a hayrack pulled by a team, driven by Floyd Rumford, Abbyville, and a small wagon pulled by Shetland ponies. Games of tag added to the fun for the children and some of the adults. Riders ranged in age from about four up to the 60's.

The first ride, six years ago, attracted 36 riders.

Hutchonians attending included the Gene Bridges family, the Max Murrays, Glenn Scotts, Roy Russells, Roland Stewarts, Stan Gobles, Mike Wrays, Dale Jayes, Bill Ansagers and Harry Turners and Joleen Friesen, Mary Meschke, Jack Perry, Butch Cox, Ralph Deaver, Fred Conger, Al Wiens, Ricky Orthwein, Doug Teeter, Glenn Keever, Ray Berkley, Bud Gibson, Ardath Smith and Jeff Ankerholz.

Hutchinson News

10/29/68

COURIER
Stafford, Ks. 08/01/68

TOP MEN AT CONFERENCE

Refuge Manager Charles R. Darling, and Assistant Manager James M. Carroll have returned to the Quivira National Wildlife Refuge after attending a week long conference of refuge managers of the Bureau of Sport Fisheries and Wildlife's southwestern region. The Albuquerque meeting was attended by forty eight managerial personnel from field stations in the eight state area.

Speakers at the Conference included Assistant National Director of the Bureau, Noble E. Buell; Robert Scott, Chief of the Division of Wildlife Refuges; William T. Krummes, Regional Director of the Southwestern Region, and many specialists in particular fields of refuge management.

During the week long session, Darling and Carroll took part in workshops on personnel management problems, habitat management, and a discussion of the Leopold Report, the result of the President's Blue Ribbon Committee's study of refuge needs and problems. Panel discussions were presented concerning new developments in refuge administration. These discussions included procurement, personnel, funds, accounting and reports.

Hunting in Full Swing For Kansas Sportsmen

By JIM HITCH

Christmas is here as far as western Kansas hunters are concerned.

Small game hunters with multi-bag limits on their mind can fill their stockings with squirrels, rabbits, ducks, geese, quail and pheasants.

And in the big game field, over 250 Kansas archers have already taken their deer. The archery season ends at sundown Dec. 1. The firearms season on Deer is Dec. 13-17.

Current weather conditions will probably put goose hunting as the head of the best bet list for the week.

Goose hunting at Quivira National Wildlife Refuge the past week has been both good and bad.

A week ago today a group of hunters using decoys shot 23 geese at the refuge from flights coming off the closed marsh at the south end of the compound, heading for wheat fields and water at the north end.

According to officers at Quivira, the kill included 18 white front, two greater Canadians and three lessers.

Then last Monday nine geese were taken over decoys there. The goose hunting at Quivira was believed better than that at Cheyenne Bottoms. Hunting at both com-

pounds dropped off at mid-week.

Reason at Quivira was that the water froze and the geese didn't observe regular flight patterns. Bluebird weather Thursday and Friday got them flying again but duck hunting was way off.

A new rule at Quivira this year prohibits hunters from retrieving game that falls across fences into closed areas. Last year conservation officers sometimes retried such kills for hunters, but not so this year. The change was ordered by Charles Darling, refuge manager, because some hunters made a habit of shooting along the borders and deliberately dropping game into closed areas.

Even hunters who stay away from the border areas sometimes have difficulty. A hunter last week proved it's not always possible to drop a goose just where you want to, no matter how good a shot you are.

He was hunting in an area north of the Quivira maintenance shops and had a set of decoys out. A flight came in and he plugged a greater Canadian. The big bird soared more than a quarter mile and dropped into a closed area.

An officer at the refuge retrieved the bird and dressed it out for the Barton County old folks home. Surprising thing was that the goose had traveled the quarter mile with 12 gauge number two buck in his heart and gizzard and his lungs were collapsed.

There are about 4,000 geese at Quivira this weekend even though many of the earlier flights have moved on south. The Bottoms, northeast of Great Bend is home to about 80,000 ducks.

Pheasant hunting in central and Western Kansas has been slow since opening day, but quail success was good to excellent during the first week, according to the Forestry, Fish and Game Commission.

First season to close is ducks. Last day is Dec. 1, followed by the end of the first half of pheasant season in western Kansas on Dec. 8. Goose season ends Dec. 15 and squirrel Dec. 31.

Hutchinson News

11/24/68



Stafford
Courier
10/31/68

THINKING ALL THE TIME — Jim Carroll, right, receives an Incentive Award from Quivira Refuge Manager Charles Darling. The award was recently made to Asst. Manager Carroll due to his suggestion for and design of a portable water gauge used in measuring water levels in units on the Refuge. The portable gauge is superior to the permanent gauges that are often rendered ineffective due to waves, ice and dirt. The \$50 award is based on savings in time and intangible benefits (wet feet, wet clothing and much discomfort often experienced by those reading permanent gauges.)

(Stafford Courier Photo)

New Assistant At Wildlife Refuge

Gerald L. Fisher has recently been assigned to the Quivira Refuge as Assistant Refuge Manager. Mr. Fisher is a graduate of Colorado State University and was formerly employed at the Imperial National Wildlife Refuge in Yuma, Arizona. He has served the last five years in the U. S. Navy.

After receiving a commission, he attended Navy Flight School and was then assigned to Patrol Squadron Twenty Eight as a patrol plane pilot. Patrol Squadron Twenty Eight is home based at the Barber's Point Naval Air Station, Oahu, Hawaii.

While attached to the squadron Mr. Fisher made deployments to the Philippine and Aleutian Islands where he flew antisubmarine and shipping reconnaissance patrols over the South China and Bering Seas and the North Pacific. He also spent some time in Thailand and Japan.

Mr. Fisher's home state is Colorado; he is unmarried and resides in housing at the Quivira refuge headquarters.

Assignment of a new assistant to Refuge Manager Charles Darling was made necessary by the recent promotion of former Assistant Manager Jim Carroll.

Stafford Courier

12/05/68

The Hutchinson News
Hutchinson, Kas. June 6, 1968

Excellent Fishing at Quivira

SYLVIA — A portion of the Quivira Wildlife Refuge was opened to fishermen Saturday morning for the first time since 1956, and catches of both bullheads and channel catfish have been excellent during the week.

All of the little salt marsh has been opened to fishermen. The marsh, along the south side of the Refuge, has limited access since the water in parts of the marsh is only an

inch deep.

According to Charles R. Darling, federal agent at Quivira, fishing has been good along the dike at the north end of the marsh.

No boats, fires, or overnight camping are allowed by anglers. Darling said, however, that one-man floats can be used.

State fishing regulations apply to fishermen at Quivira. In addition, the federal author-

ities have further restricted the state laws to prohibit trot lines and bows and arrows.

When the marsh was opened Saturday morning, from 400 to 500 people turned up. Darling reported that the numbers thinned out Sunday and have dropped off during the week.

The little salt marsh is fed by Rattlesnake Creek from the

southwest. The creek has supplied all the fish for the marsh and no stocking has been necessary.

When asked what type of bait the fishermen were using, Darling said, "Well, Saturday they used just about everything you can imagine, but the best bait for catfish has been the old standbys—worms, liver, and shrimp."

"The fishing has been good during most of the day," Dar-

ling continued, "but it has been especially good during the morning before 10 o'clock."

Darling said most of the catfish being caught have weighed from three to five pounds, but he said he saw one that must have weighed 10 to 12 pounds.

In addition to bullheads and channels, the marsh has bass, crappie, bluegill and carp.

Big Payment By Refuge To The County

The Bureau of Sport Fisheries and Wildlife presented a check in the amount of \$17,077.05 to the County of Stafford through Refuge Manager Charles R. Darling, Quivira National Wildlife Refuge. The annual payments are made to counties in which national wildlife refuges are located in accordance with the provisions of the Refuge Revenue Sharing Act as amended. The law provides that the payment may be made either on the basis of 25 per cent of the refuge receipts or three-fourths of one per cent of the adjusted cost of the acquired lands, whichever is greater.

Payment to Stafford County is made on the basis of 19,931.1 acres of acquired lands in the Quivira National Wildlife Refuge for the period of July 1, 1967 to June 30, 1968. A payment of \$620.41 was made to Rice County for 622.2 acres and a similar payment to Reno County of \$560.33 for 626.8 acres. The monies may be used only for the use of schools or roads within the counties under the provision of the law.

The Quivira Refuge was authorized by the Migratory Bird Commission in 1953 and land acquisition began in 1956. Funds for the land acquisition were derived from the sale of the federal Duck Stamps which are required for the lawful hunting of ducks and geese.

Stafford Courier
10/10/68

Releases
appeared in
several area
news papers.

Five Hunting Areas On Quivira Refuge

Five hunting areas will be open to public hunting again this year on the Quivira National Wildlife Refuge in northeastern Stafford county. The areas are the same as those used last year with some additional land which has been acquired as part of the refuge since that time. The five areas total 7,030 acres out of the nearly 20,000 acre refuge. Maps of the hunting areas are available at the refuge office 13 miles northeast of Stafford.

Public hunting will be permitted on these areas for ducks, geese, coot, gallinule, snipe, pheasants, bobwhite, cottontail rabbits, squirrel and crows in accordance with state seasons and regulations through January 12, 1969, except that no rifles are permitted for taking squirrel, rabbits and crows.

No hunting of any species is permitted after sunset on the refuge. Hunters are not required to check in or out of the hunting areas. They are urged to make sure they are entering an authorized hunting area. The parking area at the old Hutchinson Gun Club is the only designated parking area outside of a hunting area. The hunting areas are marked with a green "Hunting Area" sign. A white "Closed Area" sign marks the no hunting areas.

Hunters are asked to avoid hunting along the boundaries of the hunting areas and shooting at birds which are likely to fall within the Closed Area. Dead or crippled birds cannot be retrieved from the Closed Areas.

The Little Salt Marsh is nearly three feet low at the present time and there is no water in any of the hunting areas. Efforts will be made to divert some water into Hunting Area No. 1 prior to the opening of the duck season. Water will be released to Hunting Area No. 2 as it becomes available from increased flows in Rattlesnake Creek. There is water in the Big Salt Marsh and it is expected that the two marsh areas will attract geese as they move into the area as in the past. Goose hunting prospects on the surrounding areas near the refuge should be similar to the last few years.

Ellinwood Leader
10/10/68

State Geese Flocks Scarce As Season Opening Nears

By JIM HITCH

Only four spots in the entire state report flocks of geese in excess of 100 birds with the opening of the season two days away.

LeRoy Lyon of the information and education staff of the Kansas Forestry, Fish and Game Commission, said those waters include:

Cheyenne Bottoms at Great Bend, Quivira National Wildlife Refuge, 20 miles west of Hutchinson, Kirwin Reservoir near Phillipsburg and Cheney Reservoir, south of Hutchinson.

Cheyenne Bottoms apparently has the best flock, about 1,000 birds, according to Marvin Schwilling, waterfowl project leader.

A report that goose season might be delayed there was squelched Wednesday afternoon by Jim Robinson of Hutchinson, federal wildlife agent.

Cause of the delay would have been the arrival at the bottoms of a rare whooping crane, one of only about 50 of the species left in existence.

No Delay

Robinson said it was decided not to delay the season, but he warned hunters to be especially careful. It was believed the bird may leave the area within

a couple of days.

The crane, accompanied by a big migration of sandhill cranes, flew in ahead of a recent cold wave.

Schwilling said there are about 200,000 ducks at the Bottoms too. The season opens officially at 7:11 a.m. Saturday and runs from a half hour before sunrise to sunset, daily through Dec. 15.

A total of 167 blinds at the Bottoms are available to hunters on a first come, first served basis at no charge.

Schwilling said he recommends two hunters to a blind

but will allow three. Hunters must check in at the station and leave their license before proceeding to a blind.

There is also plenty of hunting in other areas at the Bottoms, especially along the 200-yard - wide, four - mile long goose hunting zone, called the "firing line" by most hunters.

That zone is situated along the south edge of the compound. Schwilling said records indicate that more geese are taken in this area and behind the blinds than are taken from the blinds themselves.

"Those blinds stick out like a sore thumb and the ducks and geese learn that they get shot at from those things," Schwilling declared.

Schwilling said he heard there has been rough weather to the north, but whether it is rough enough to send more geese winging south is questionable.

Lyon thinks not. "We are predicting a small opening around the state," he reported. "We're going to have to get rid of this bluebird weather."

Lyon also reported some small flocks of snow and blue geese have been reported in eastern Kansas.

Hutchinson News

10/10/68

Refuge Will Be Open To Fishing In June

A portion of the Quivira National Wildlife Refuge, Stafford County, will be opened for public fishing this summer for the first time since the establishment of the refuge in 1956.

The Little Salt Marsh will be the primary area available for fishermen from June 1 through September 30. The Little Salt Marsh is a diversion of Rattlesnake Creek and eventually flows into the Arkansas River. It is well stocked with channel catfish, bullheads and carp.

Access to most of the shoreline by car is limited. The dike which crosses the northern end of the marsh will provide access to the deeper portions in the borrow ditch. Boats are not permitted but fishermen may use the one-man floater tubes if they wish to wade the ditches.

Fishing is in accordance with Kansas State regulations and license requirements with closely attended rod (s) and line (s). Trotlines, bank lines and set lines are not permitted. No other permit is required for fishing or entrance to the refuge by the designated routes.

Maps of the fishing area and other information are available at the refuge office which is located eight miles north of Zenith.

Stafford Courier

04/25/68

All local papers



DROUGHT LAND — Lack of water from Rattlesnake Creek has caused Quivira Wildlife Refuge to dry up this fall, posing conservation problems and thwarting a possible hunting site for outdoorsmen. There is no water in any of the

(Hutchinson News-AP Wirephoto)
duck hunting units, and if no measurable precipitation is recorded by Nov. 2, hunting at the refuge this season will be hampered.

HUTCHINSON NEWS 10/02/68

YOUTH LEAVE WILDLIFE FOR ACADEMICS

College youth were employed at Quivira National Wildlife Refuge during the summer months to accomplish the routine maintenance program and other needed tasks. The young men were utilized in the refuge farming program, the chemical control of salt cedar in canals and water units, removing old fences from former farmlands, and a periodic cleanup of the public fishing areas.

Several of those employed during the summer have professed a desire for a career in wildlife management. Jack Burleson, Stafford, and Virgil Smith, Weskan have returned to Kansas State University as Wildlife Conservation majors.

Graham M. Butler, Wayne, Nebr. enters Colorado State University as Wildlife Management major.

Other students at the refuge this summer were Jerry Gee, Stafford, and Keith Starr, Raymond who attend Kansas State University.

Tom Peintner, Stafford, St. Mary of the Plains and Ben Linville, Raymond, Kansas State Teacher's College, Emporia. Mike Forwalder, Sterling, a graduate of Sterling College, has also been employed at the refuge this summer and is awaiting the expected call to military service.

Stafford Courier

9/12/68

ROTARIANS ENJOYED COLORED FILM OF EAGLES

Stafford Rotarians were privileged Tuesday night to see a fine color film about the eagle of north America. It was prepared by the United States Wild Life service and deals primarily with the bald eagle, our national bird. Chas. Darling of Quivira Refuge presented the film.

Most of the film was taken in Florida and Alaska, where most of the eagles of the United States are found. They are quite plentiful in places in Alaska and several were roosting in one tree in some views. The eagle population is suffering elsewhere from the encroachment of man.

Bald eagles are brown, some times almost black, until they are four years old, when they reach full maturity and develop the white head. Many are killed before they become bald and hunters are urged to be careful and not mistake them for large hawks.

Mr. Darling said the eagles are just beginning to come in at the refuge to take up winter quarters. He says some of them roost in other spots around here that are outside the refuge. They will remain in this area until in March and will probably go into Canada for the summer.

Rev. Cautious Choate, former Methodist pastor here who has retained his Stafford Rotarian membership, was a visitor Tuesday night. He was accompanied by Rev. Holcomb. They were attending a ministers' conference at Hutchinson and took time to come to Stafford so Rev. Choate could see some old friends.

Stafford Courier

10/17/68

Hunting Regulations Vary At Areas of Open Federal

By FRED MENDELL

Three National Wildlife Refuges in Kansas will be open for hunting in 1968, but Jim Robinson, Hutchinson, federal game management agent, is anxious that hunters understand regulations governing the hunting are not identical.

"Only portions of the refuges will be open," he said, "and the type of hunting permitted and the seasons are not the same."

The three areas are the Flint Hills National Wildlife Refuge in Coffee County; Kirwin National Refuge in Phillips County and Quivira Refuge in Stafford County.

"National refuges are managed primarily for the protection of waterfowl and other migratory birds," Robinson said. "But hunting is sometimes permitted in portions of the refuges when there is provision of law applicable to the area and the Secretary of the Interior be-

lieves hunting is compatible with refuge objectives."

To obtain the specific regulations governing hunting at the national refuges, Robinson said nimrods should write to the respective refuge managers: Flint Hills National Wildlife Refuge, Burlington, Kan. 66839; Kirwin National Refuge, Kirwin, Kan. 67644, or Quivira National Refuge, Stafford, Kan. 66578.

One of the specific regulations for Quivira is that dove hunting will not be permitted before the waterfowl season opens.

Each refuge will still have closed areas in which no hunting will be permitted.

Robinson also warns that the Bureau of Sport Fisheries and Wildlife will not permit anyone—not even employees of the Bureau—to retrieve for hunters the birds shot outside the area and which fall into the closed area.

Dead birds found inside a closed area will be picked up

and given to charitable institutions for food, assuming the flesh is still edible, or to public, scientific or educational institutions for specimens.

Hunters are urged not to shoot at birds along the closed area lines where it is likely they will fall into the closed area and cannot be retrieved.

Best Way to Enjoy Trip Is to Prepare for It

The best way to enjoy a hunting trip to the fullest is to make adequate advance plans, according to the Kansas Forestry, Fish and Game Commission.

With the hunting seasons beginning in earnest, the Commission advises sportsmen that proper planning can make the difference between a good day afield or a disappointing, troublesome experience. Here are suggestions:

1. Always know where you are going before you leave—wandering aimlessly in search of a place to hunt is seldom productive.

2. When hunting on private lands, always get advance permission before you enter. (Kansas law prescribes stiff penalties for hunting without permission.)

3. Make sure that each member of the hunting party knows and understands the rules of safe gun handling.

4. Have a physical checkup and condition yourself for the unusual activity involved in most hunting.

5. Wear or take along proper clothing for the expected weather conditions. Remember, you can always remove a garment or two if the weather turns warm but it is impossible to put on a coat you have left at home.

6. Check the regulations involving any game you may be hunting and make sure you have the proper license and hunting stamps. (This may save you a trip to the judge.)

7. Resolve to conduct yourself in a sportsman-like manner. Courtesy on the part of all will pay big dividends.

Hutchinson News

9/01/68

TEN YEARS AT REFUGE

Mr. Joseph E. Miller was presented a 10-year Service Award Aug. 21 by Refuge Manager Darling on behalf of Acting Regional Director W. O. Nelson, Jr. The award included a letter from Mr. Nelson and a lapel pin signifying the emblem of the Department of Interior.

Earl, as he is usually known to his friends, has completed all of his federal service at the Quivira Refuge except for a short term of military service in 1918. The anniversary date for the award was June 28. He was employed early in the history of

refuge acquisition and staffing. He has been instrumental in the refuge farming program, the restoration of marginal farm lands to grassland, and the day to day jobs of making things go. One of his most noted attributes is his superb fence building. He received a Superior Performance Award for his contribution to this field in 1961, and many miles of refuge boundary fence will commemorate his skill for several years.

Mr. Miller began his present employment at the age when most people are talking of retirement and we congratulate him for his tenacity.

REFUGE FISHING CLOSES SEPTEMBER 30

Seasonal changes are beginning to appear all around us. The first day of fall has slipped by on the calendar, tree leaves are changing color and football scores are replacing those of baseball. Seasonal changes in wildlife populations and activities are also about to change at the Quivira National Wildlife Refuge in the northeast corner of Stafford County.

The Little Salt Marsh within the refuge has been open to public fishing during the summer. Fishing was good in June but water levels receded rapidly in mid-summer and the interest and success began to wane. However, one or two carloads of fishermen were always there. The fishing season ends Sept. 30 on the Quivira Refuge and access across the dike on the north end of the Little Marsh will also be closed to public travel. The primary purpose of the refuge is to provide a resting and feeding area for migrating waterfowl. Other areas on the refuge will be open to hunting during the waterfowl season.

The remaining week end could provide an interesting trip to the refuge even for those who are not fishermen. There are about 2,000 white pelicans using the Marsh and more could arrive. The shallow water provides good feeding on the abundant carp and they are not cut to devour all of the more preferable catfish and bullheads. Ducks have not arrived at the Refuge to date; additional water is needed to divert into the impoundments north of the Marsh to make the area more attractive before the hunting season. North of the Marsh the tour road makes a loop through an active prairie dog town. The inhabitants are fat and sassy and still relatively tame at the approach of vehicles. If you are in the area near sundown you may hear or even see a coyote. Keep a sharp eye for a young buck deer with newly polished horns in the open areas near shelterbelts and an ear open for that first flight of geese overhead.

STAFFORD
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